Ampex ATR-100 Flux Gate Record Head

Internal Construction

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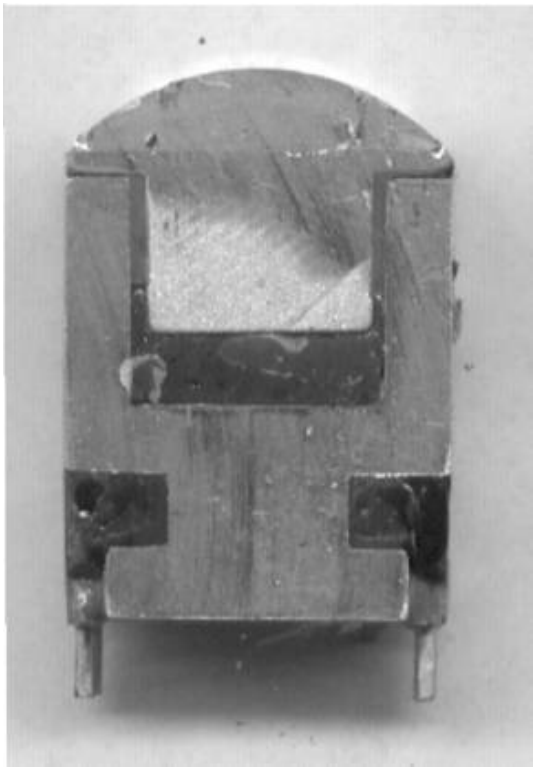
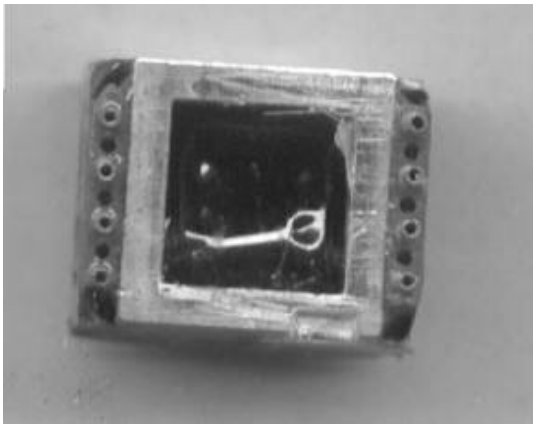
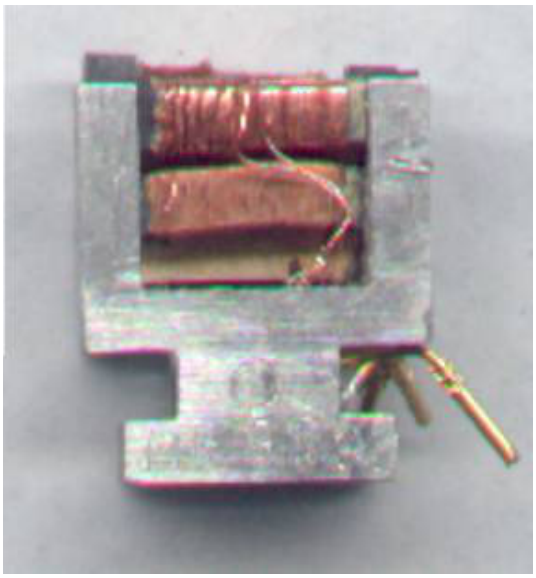
The Flux Gate record head shares the same basic construction that is described in the companion Reproduce Head document. The shielding and core frame are essentially identical except for deeper slots for shields and cores.

The photos below shows the bare head after the shielding has been removed, but prior to any epoxy removal. The record head has terminal on both sides of the head, one side for the recording core and the other side for the reproducing core.



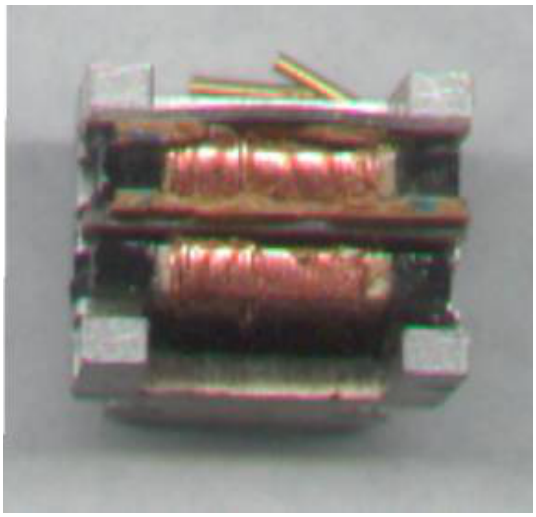


The photo below shows the top of the head after the pole tip assembly, top cover and top laminated shield are removed. Two coils on separate ferrite cores are visible, with the upper recording core wound with relatively large wire and the lower repro core wound with very fine wire.

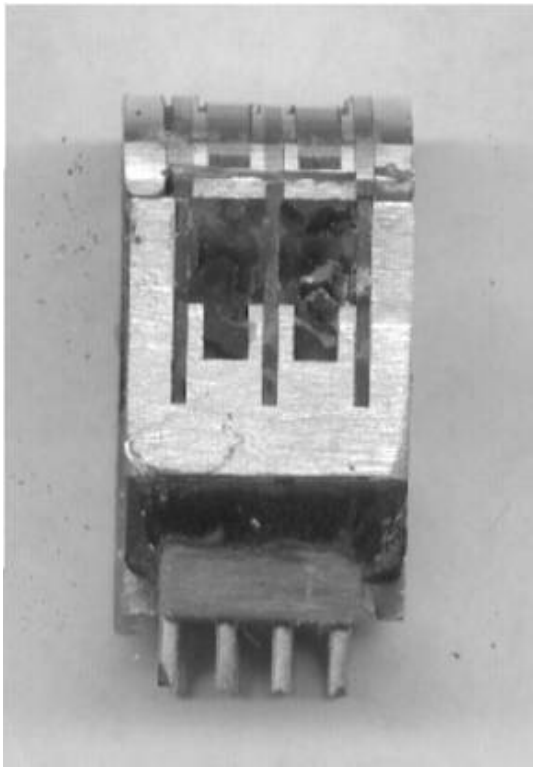


The next photo is a clearer representation of the pole tips, recording core and reproducing core. Here we can see that the recording coil is actually a bifilar winding to lower the resistance of the winding without using a larger gauge wire that would take up more vertical space, interfering with the laminated shields.

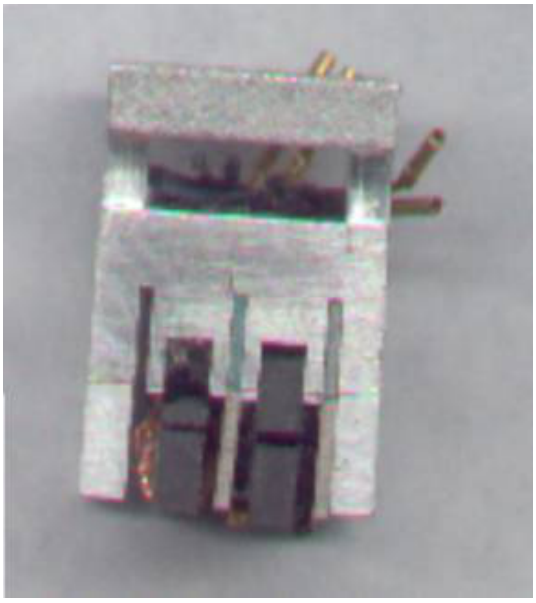
The image below is the front of the head after the pole tip assembly and most of the epoxy has been removed.



In the image below, notice how far back the support slots are. The tandem double core assembly requires a larger laminated shield to cover both cores. Note that the tandem cores are only supported at the rear. I assume that the front and rear cores are bonded together before they are inserted into this core holder.



Below we clearly see the ends of the two cores. (The front cores have been partially pulled out for clarity. Normally this would be a gapless fit.)



This image is looking into the rear of the head after all the epoxy is removed. The coils and the center laminated shield are visible through the rear opening.